Amendments to the Claims:

Claims 1-60. (cancelled)

61. (currently amended) An implantable anti-infective medical device selected from the group consisting of catheters, prostheses, shunts, stents, and leadwires, said device comprising a solid polymeric matrix selected from the group selected from a two component elastomer formulation, room temperature vulcanization elastomers, thermoplastic polymers, and hydrogels, containing within the matrix solid particles of an oxidant-producing component comprising ~~an iodine-containing salt,~~ a reducing agent, ~~consisting of an iodide salt or reactants provided by body fluids, and~~ an oxidizing agent consisting of anhydrous alkali iodine oxide salts, inorganic and organic peracids, iodine pentoxide, an oxidase enzyme, and combinations thereof, that, when wetted, causes the formation of an oxidant and sustained release of the thus-formed oxidant into and about the polymeric matrix so that the matrix serves as an anti-infective reservoir;

wherein the oxidant is iodine generated at a quantity sufficient so that free-iodine concentration near a surface of the device should reach a level of at least 5ppm;

wherein the polymeric matrix is formed from room temperature vulcanization elastomers when the oxidizing agent is selected to be the oxidase enzyme;

wherein the device further comprises an iodide salt when the oxidizing agent is inorganic and organic peracids or the oxidase enzyme.

62. (previously presented) The anti-infective medical device of claim 61 where the oxidant is elemental iodine.

63. (cancelled)

64. (previously presented) The anti-infective medical device of claim 61 where the oxidant-producing component further comprises a proton donor that, in combination with the reducing agent and the oxidizing agent, forms solid particles dispersed within the polymeric matrix in sufficient amount to provide anti-infective activity to the medical device.

65. (previously presented) The anti-infective medical device of claim 61 where the reducing agent is a water soluble iodide salt.

66. (previously presented) The anti-infective medical device of claim 65 where the reducing agent is an alkali iodide salt.

67. (previously presented) The anti-infective medical device of Claim 66 where the alkali iodide salt has a concentration of about 0.01% to about 16% by weight of the polymeric matrix.

68. (Canceled)

69. (Currently Amended) The anti-infective medical device of claim [68] 61 where the oxidizing agent is selected from the group consisting of anhydrous alkali iodate salts, iodine pentoxide, and mixtures thereof.

70. (previously presented) The anti-infective medical device of claim 64 where the proton donor is selected from the group consisting of organic acids, inorganic acids, iodine pentoxide, and other acid anhydrides.

71. (previously presented) The anti-infective medical device of claim 70 where the proton donor is selected from the group consisting of perborates and organoperoxy acids.

72. (previously presented) The anti-infective medical device of claim 71 where the proton donor has a concentration of from about 0.01% to about 16% by weight of the polymeric material.

73. (Currently Amended) The anti-infective medical device of claim 64 wherein the polymeric matrix is the room temperature vulcanization elastomers and where the proton donor is a hydrogen peroxide-generating oxidase enzyme selected from the group consisting of glucose oxidase and diamine oxidase.

74. (previously presented) The anti-infective medical device of claim 73 where the glucose oxidase has a specific activity of from about 2,000 IU/g to about 200,000 IU/g, the diamine oxidase has a specific activity of from about 50 IU/g to about 800 IU/g, and the

concentration of the glucose oxidase or diamine oxidase is from about 0.01% to about 2.5% by weight of the polymeric material.

75. (previously presented) The anti-infective medical device of claim 73 further comprising a peroxidase enzyme, where the glucose oxidase or diamine oxidase concentration is at least about 0.01% by weight of the polymeric matrix, the peroxidase enzyme is present at a concentration of at least about 0.01% by weight of the polymeric matrix, and the sum concentration of the oxidase and peroxidase enzymes is from of about 0.02% to about 2.5% by weight of the polymeric matrix.

76. (previously presented) The anti-infective medical device of claim 61 where the polymeric matrix comprises a hydrophobic polymer selected from the group consisting of polyureas, polyurethanes, poly(ethylene/-vinyl acetate), polyvinylchloride, polyesters, polyamides, polycarbonate, polyethylene, polypropylene, polystyrenes, polytetrafluoroethylene, and silicone polymers.

77. - 98. (cancelled.)

99. (previously presented) The anti-infective medical device of claim 76 where the oxidant is elemental iodine.

100. (previously presented) The anti-infective medical device of claim 99 where the oxidant-producing component further comprises a proton donor that, in combination with the reducing agent and the oxidizing agent, forms solid particles dispersed within the polymeric matrix in sufficient amount to provide anti-infective activity to the medical device.

101. (previously presented) The anti-infective medical device of claim 76 where the reducing agent is a water soluble iodide salt.

102. (previously presented) The anti-infective medical device of claim 101 where the reducing agent is an alkali iodide salt.

103. (previously presented) The anti-infective medical device of Claim 102 where the alkali iodide salt has a concentration of about 0.01% to about 16% by weight of the polymeric matrix.

104. (Currently Amended) The anti-infective medical device of claim 76 where the oxidizing agent is selected from the group consisting of anhydrous alkali iodine oxide salts, iodine pentoxide, inorganic and organic peracids, [~~oxidase enzymes,~~] and combinations thereof.

105. (Currently Amended) The anti-infective medical device of claim 104 where the oxidizing agent is selected from the group consisting of anhydrous alkali iodate salts, iodine pentoxide, and mixtures thereof.

106. (previously presented) The anti-infective medical device of claim 100 where the proton donor is selected from the group consisting of organic acids, inorganic acids, iodine pentoxide, and other acid anhydrides.

107. (previously presented) The anti-infective medical device of claim 106 where the proton donor is selected from the group consisting of perborates and organoperoxy acids.

108. (previously presented) The anti-infective medical device of claim 107 where the proton donor has a concentration of from about 0.01% to about 16% by weight of the polymeric material.

109. (Currently Amended) The anti-infective medical device of claim 100 where the polymeric matrix is the room temperature vulcanization elastomers when the proton donor is a hydrogen peroxide-generating oxidase enzyme selected from the group consisting of glucose oxidase and diamine oxidase.

110. (previously presented) The anti-infective medical device of claim 109 where the glucose oxidase has a specific activity of from about 2,000 IU/g to about 200,000 IU/g, the diamine oxidase has a specific activity of from about 50 IU/g to about 800 IU/g, and the concentration of the glucose oxidase or diamine oxidase is from about 0.01% to about 2.5% by weight of the polymeric material.

111. (previously presented) The anti-infective medical device of claim 109 further comprising a peroxidase enzyme, where the glucose oxidase or diamine oxidase concentration is at least about 0.01% by weight of the polymeric matrix, the peroxidase

enzyme is present at a concentration of at least about 0.01% by weight of the polymeric matrix, and the sum concentration of the oxidase and peroxidase enzymes is from of about 0.02% to about 2.5% by weight of the polymeric matrix.

112. (previously presented) The anti-infective medical device of claim 61 selected from the group consisting of catheters and prostheses.

Claim 113. (Canceled)

114. (Currently Amended) An implantable anti-infective medical device selected from the group consisting of catheters, prostheses, shunts, stents, and leadwires, comprising a solid polymeric matrix, comprising a solid polymeric matrix selected from the group consisting of ~~a two-component elastomer formulation,~~ room temperature vulcanization elastomers~~, hydrogels, and hydrophobic polymers~~ that contain[s] within the matrix solid particles of an oxidant-producing component comprising [~~an iodine-containing salt, a reducing agent consisting of~~ an iodide salt ~~and reactants provided by body fluids~~ and an oxidizing agent consisting of substrate oxidoreductases which, when allowed to contact oxidoreductase substrates in body fluids causes the formation of an oxidant and sustained release of the thus-formed oxidant into and about the polymeric matrix so that the matrix serves as an anti-infective reservoir;

wherein the oxidant is iodine generated at a quantity sufficient so that free-iodine concentration near a surface of the device should reach a level of at least 5ppm.

115. (New) An implantable anti-infective medical device selected from the group consisting of catheters, prostheses, shunts, stents, and leadwires, comprising a solid polymeric matrix selected from the group consisting of thermoplastic polymers and thermosetting polymers, containing within the matrix solid particles of a non-enzyme, oxidant-producing component comprising an oxidizing agent and an iodide salt which, when allowed to contact body fluids, generates an oxidant and sustained release of the thus-formed oxidant into and about the polymeric matrix so that the matrix serves as an anti-infective reservoir, wherein the oxidant is iodine generated at a quantity sufficient so that free-iodine concentration near a surface of the device should reach a level of at least 5ppm.